

TRANE
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DRAWN BY: D.SHERROLL © TRANE DATE: 08-MAY-2017

50712058
SHEET 1 OF 3
REV A

SCHEMATIC
RTAC AFD RETROFIT
4 COMPRESSOR UNIT

DEVICES, DESCRIPTIONS & DESIGNATIONS

REPLACES:
REVISION DATE:
SIMILAR TO:

DEVICES, DESCRIPTIONS & DESIGNATIONS

LEGEND		
DEVICE DESIGNATION	LINE NUMBER	DESCRIPTION
1B1	21	PANEL VENTILATION FAN
1CB1	7	HACR CIRCUIT BREAKER, CIRCUIT 1
1CB2	13	HACR CIRCUIT BREAKER FOR AFD CIRCUIT1
1FT5	17	CONTROL POWER TRANSFORMER SECONDARY FUSE, 115 VOLT CIRCUIT
1F16, 1F17	15,16	CONTROL POWER TRANSFORMER SECONDARY FUSE, LOW VOLTAGE CIRCUIT
1K9	20,22,45	START CONTACTOR, COMPRESSOR 1B
1K9	24	CONDENSER FAN CONTACTOR, CIRCUIT 1
1K10	27	CONDENSER FAN CONTACTOR, CIRCUIT 1
1K11	30	CONDENSER FAN CONTACTOR, CIRCUIT 1
1K12	33	CONDENSER FAN CONTACTOR, CIRCUIT 1
1K13	33	CONDENSER FAN CONTACTOR, CIRCUIT 1
1K14	10	CONDENSER FAN CONTACTOR, CIRCUIT 1
1K20	21,22,37,43,46	RELAY, AFD CIRCUIT 1 STATUS
1K30	35,59	RELAY, HIGH PRESSURE CUTOUT CIRCUIT 1
1SW1	7	DISCONNECT SWITCH FOR CUSTOMER POWER WIRING, CIRCUIT 1
1T1	15	CONTROL POWER SUPPLY TRANSFORMER
1T9	109	POTENTIAL VOLTAGE TRANSFORMER, UNDER/OVER VOLTAGE.
1TB1	7	TERMINAL BLOCK FOR CUSTOMER POWER WIRING, CIRCUIT 1
1TB5	VARIOUS LOCATIONS	FACTORY CONTROL WIRING TERMINAL STRIP
1TS4	21	VENTILATION FAN OFF/ON TEMPERATURE CONTROL SWITCH (CONTROL PANEL 1)
1U15	21	QUAD RELAY OUTPUT, FAN CONTROL, CIRCUIT 1
1U30	45	CONTROL MODULE, UC800
1U1	12,37	AFD CIRCUIT 1
1U19	107	STARTER MODULE, COMPRESSOR 1B
2CB1	67	HACR CIRCUIT BREAKER, CIRCUIT 2
2CB2	74	HACR CIRCUIT BREAKER FOR AFD CIRCUIT2
2F15	78	CONTROL POWER TRANSFORMER SECONDARY FUSE, 115 VOLT CIRCUIT
2F16	76	CONTROL POWER TRANSFORMER SECONDARY FUSE, LOW VOLTAGE CIRCUIT
2F17	77	CONTROL POWER TRANSFORMER SECONDARY FUSE, LOW VOLTAGE CIRCUIT
2K5	80,82,103	START CONTACTOR, COMPRESSOR 2B
2K9	83	CONDENSER FAN CONTACTOR, CIRCUIT 2
2K10	86	CONDENSER FAN CONTACTOR, CIRCUIT 2
2K11	89	CONDENSER FAN CONTACTOR, CIRCUIT 2
2K12	92	CONDENSER FAN CONTACTOR, CIRCUIT 2
2K13	93	CONDENSER FAN CONTACTOR, CIRCUIT 2
2K20	81,82,98,102,106	RELAY, AFD CIRCUIT 2 STATUS
2K30	96,99	RELAY, HIGH PRESSURE CUTOUT CIRCUIT 2
2SW1	67	DISCONNECT SWITCH FOR CUSTOMER POWER WIRING, CIRCUIT 2
2T1	75	CONTROL POWER SUPPLY TRANSFORMER
2TB1	80	TERMINAL BLOCK FOR CUSTOMER POWER WIRING, CIRCUIT 2
2TB5	VARIOUS LOCATIONS	FACTORY CONTROL WIRING TERMINAL STRIP
2TS4	80	VENTILATION FAN OFF/ON TEMPERATURE CONTROL SWITCH (CONTROL PANEL 2)
2U1	73,99	AFD CIRCUIT 2
2U15	82	QUAD RELAY OUTPUT, FAN CONTROL, CIRCUIT 2
3B20	47	MOTOR, FAN, AFD ENCLOSURE CIRCUIT 1
3B1	14	MOTOR, COMPRESSOR 1A, CIRCUIT 1
3HR1	21	COMPRESSOR 1A HEATER CIRCUIT 1
3HR2	22	OIL SEPERATOR HEATER CIRCUIT 1
3L7	43	OIL LINE VALVE COMPRESSOR 1A
3L8	45	OIL LINE VALVE COMPRESSOR 1B
3PS1	34	HIGH PRESSURE CUTOUT SWITCH, COMPRESSOR 1A
3T2	12	CHOKES, CIRCUIT 1
3TS1	47	VENTILATION TEMPERAUTE SWITCH, AFD ENCLOSURE CIRCUIT 1
4B20	105	MOTOR, FAN, AFD ENCLOSURE CIRCUIT 2
4B1	76	MOTOR, COMPRESSOR 2A, CIRCUIT 2
4HR1	81	COMPRESSOR 2A HEATER CIRCUIT 2
4HR2	82	OIL SEPERATOR HEATER CIRCUIT 2
4L7	102	OIL LINE VALVE COMPRESSOR 2A
4L8	104	OIL LINE VALVE COMPRESSOR 2B
4PS1	96	HIGH PRESSURE CUTOUT SWITCH, COMPRESSOR 2A
4T2	73	CHOKES, AFD CIRCUIT 2
4TS1	105	VENTILATION TEMPERAUTE SWITCH, AFD ENCLOSURE CIRCUIT 2
6RT4	117	COMPRESSOR DISCHARGE TEMPERATURE SENSOR, COMPRESSOR 1A
6RT5	120	COMPRESSOR DISCHARGE TEMPERATURE SENSOR, COMPRESSOR 2A

GENERAL & FLAG NOTES

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- WRING FOR 460V UNIT SHOWN. SEE INSET "A" FOR CONTROL POWER TRANSFORMER WIRING FOR OTHER VOLTAGES.
- FOR LOW AND WIDE AMBIENT OPTION, 1K9 IS NOT PRESENT. SEE INSET "C"
- WRING FOR 460V UNIT SHOWN. SEE INSET "D" FOR CONTROL POWER TRANSFORMER WIRING FOR OTHER VOLTAGES.
- FOR LOW AND WIDE AMBIENT OPTION, 2K9 IS NOT PRESENT. SEE INSET "E"
- CONTROLS & ASSOCIATED WIRING ARE USED ONLY WHEN THE CONTROL PANEL VENTILATION FAN IS PROVIDED.
- FOR LOW & WIDE AMBIENT OPTION HEATERS & THERMOSTAT REQUIRED.
- REFER TO EXISTING UNIT SCHEMATICS FOR SPECIFIC CONNECTION DETAIL.
- OIL SOLENOIDS MAY NOT BE INSTALLED ON SOME UNITS, REFER TO EXISTING UNIT CONFIGURATION.
- UNDER/OVER VOLTAGE DETECTION MUST BE MOVED FROM STARTER MODULE 1U14 TO STARTER MODULE 1U19, COMPRESSOR 1B.
- DISCHARGE TEMPERATURE SENSORS MUST BE INSTALLED ON COMPRESSORS WITH AFD DRIVE, 1A AND 2A.
- COMPONENTS SPECIFIC TO AFD RETROFIT KIT.

NOTES:
COMPONENTS (LLIDS) ARE NOT NECESSARILY WIRED ON THE IPC BUS IN THE ORDER SHOWN.

⚠ WARNING

HAZARDOUS VOLTAGE!
DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS AND FOLLOW LOCK OUT AND TAG PROCEDURES BEFORE SERVICING. INSURE THAT ALL MOTOR CAPACITORS HAVE DISCHARGED STORED VOLTAGE. UNITS WITH VARIABLE SPEED DRIVE, REFER TO DRIVE INSTRUCTIONS FOR CAPACITOR DISCHARGE.
FAILURE TO DO THE ABOVE BEFORE SERVICING COULD RESULT IN DEATH OR SERIOUS INJURY.

⚠ AVERTISSEMENT

TENSION DANGEREUSE!
COUPER TOUTES LES TENSIONS ET OUVRIR LES SECTIONNEURS A DISTANCE. PUIS SUIVRE LES PROCEDURES DE VERROUILLAGE ET DES ETIQUETTES AVANT TOUTE INTERVENTION. VERIFIER QUE TOUTS LES CONDENSATEURS DES MOTEURS SONT DECHARGES. DANS LE CAS D'UNITES COMPORTANT DES ENTRAINEMENTS A VITESSE VARIABLE, SE REPORTER AUX INSTRUCTIONS DE L'ENTRAINEMENT POUR DECHARGER LES CONDENSATEURS.
NE PAS RESPECTER CES MESURES DE PRECAUTION PEUT ENTRAINER DES BLESSURES GRAVES POUVANT ETRE MORTELLES.

⚠ ADVERTENCIA

VOLTAJE PELIGROSO!
DESCONECTE TODA LA ENERGIA ELÉCTRICA, INCLUIDO LAS DESCONEXIONES REMOTAS Y SIGA LOS PROCEDIMIENTOS DE CIERRE Y ETIQUETADO ANTES DE PROCEDER AL SERVICIO. ASEGÚRESE DE QUE TODOS LOS CAPACITORES DEL MOTOR HAYAN DESCARGADO EL VOLTAJE ALMACENADO. PARA LAS UNIDADES CON EJE DE DIRECCIÓN DE VELOCIDAD VARIABLE, CONSULTE LAS INSTRUCCIONES PARA LA DESCARGA DEL CONDENSADOR.
EL NO REALIZAR LO ANTERIORMENTE INDICADO, PODRIA OCASIONAR LA MUERTE O SERIAS LESIONES PERSONALES.

CAUTION

USE COPPER CONDUCTORS ONLY!
UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.
FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

PRECAUCIÓN

N'UTILISER QUE DES CONDUCTEURS EN CUIVRE!
LES BORNES DE L'UNITÉ NE SONT PAS CONÇUES POUR RECEVOIR D'AUTRES TYPES DE CONDUCTEURS.
L'UTILISATION DE TOUT AUTRE CONDUCTEUR PEUT ENDOMMAGER L'EQUIPEMENT.

ATTENTION

UTILICE ÚNICAMENTE CONDUCTORES DE COBRE!
LAS TERMINALES DE LA UNIDAD NO ESTÁN DISEÑADAS PARA ACEPTAR OTROS TIPOS DE CONDUCTORES.
SI NO LO HACE, PUEDE OCASIONAR DAÑO AL EQUIPO.

